A.D. 1886, 17*th* FEBRUARY. N° 2322.

PROVISIONAL SPECIFICATION.

[*Communicated from abroad by Ulpiano Rodriguez Pumariega, Gentleman, of Avilèz, Province of Asturias, in the Kingdom of Spain.*]

A New or Improved Method of Metallizing Woven Textile Fabrics, Especially Flannel, in Order to Develop Electricity for Hygienic and Medicinal Purposes.

I LORENTZ ALBERT GROTH K.G.V. Civil Engineer, and Proprietor of the Patent Industrial and Financial Agency 30 Finsbury Pavement London E.C. do hereby declare the nature of said invention for "A NEW OR IMPROVED METHOD OF METALLIZING TEXTILE WOVEN FABRICS ESPECIALLY FLANNEL IN ORDER TO DEVELOP ELECTRICITY FOR HYGIENIC AND MEDICINAL PURPOSES" a communication to me from abroad by Ulpiano Rodriguez Pumariega Gentleman of Avilèz Province of Asturias, in the Kingdom of Spain, to be as follows:—

The object of this invention is to impregnate woven textile fabrics, especially flannel with finely powdered metal so that when applied to the human body an electric current is generated by means of the perspiration which current is weak but constant as long as the material remains in contact with the body.

The material is steeped in a bath composed of equal parts (by weight) of oxide of iron, copper, zinc, & tin mixed as an impalpable powder in a solution of weak gum water.

When sufficiently metalized it is taken from the bath and dryed when it is ready for use, the metal having thoroughly permeated it thus forming a dry electric pile or battery.

Dated this 17th day of February 1886.

LORENTZ ALBERT GROTH.

[*Price* 4*d.*]

COMPLETE SPECIFICATION.

A New or Improved Method of Metalising Woven Textile Fabrics, Especially Flannel, in Order to Develop Electricity for Hygienic and Medicinal Purposes.

I LORENTZ ALBERT GROTH K.G.V. Civil Engineer and Proprietor of the Patent Industrial and Financial Agency 30 Finsbury Pavement London E.C. do hereby declare the nature of said invention for "A NEW OR IMPROVED METHOD OF METALISING WOVEN TEXTILE FABRICS ESPECIALLY FLANNEL IN ORDER TO DEVELOP ELECTRICITY FOR HYGIENIC AND MEDICINAL PURPOSES" a communication to me from abroad by Ulpiano Rodriguez Pumariega Gentleman of Avilėz Province of Asturias in the Kingdom of Spain, and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement:—

The object of this invention is to impregnate woven textile fabrics, especially flannel with finely powdered metal, so that when applied to the human body an electric current is generated by means of the perspiration which current is weak but constant as long as the material remains in contact with the body.

It consists in steeping the woven material in a bath composed of equal parts (by weight) of oxide of iron copper, zinc, and tin mixed as an impalpable powder in a solution of weak gum water (3 parts gum to 100 water).

These ingredients must be very carefully mixed either by hand or some suitable mechanical arrangement.

The time the woven material must remain in the bath depends partly upon the nature of the woven material and partly upon the degree of metalisation required.

When the woven material has been sufficiently impregnated, it is removed from the bath and dryed, when it will be found that the metallic particles have entered into not only the interstices between the fibres of the woven material but also the fibres themselves, thus forming a metallic surface and constituting an electric pile or dry battery.

To metallise 1 kilogram of woven material 30 to 40 grams of each of the before-mentioned oxides is required mixed in about 1 kilogram of gum water.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed I declare that what I claim is:—

A new or improved method of metallising woven materials, especially flannels, consisting in steeping them in a bath composed of equal parts by weight of oxides of iron, copper, zinc and tin, mixed in an impalpable powder in a solution of 3 parts gum to 100 parts water, and afterwards dried principally as described and for the purpose set forth.

Dated the 17th day of February 1886.

LORENTZ ALBERT GROTH.

LONDON: Printed by EYRE AND SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty.
For Her Majesty's Stationery Office.

1886.

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